STATE OF CALIFORNIA
California Energy Commission

In the Matter of:

The Application for Certification for the CARRIZO ENERGY SOLAR FARM

Docket No. 07-AFC-08

CALIFORNIA UNIONS FOR RELIABLE ENERGY DATA REQUESTS, SET THREE

December 19, 2008

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Attorneys for the CALIFORNIA UNIONS FOR RELIABLE ENERGY

The following data requests are submitted by California Unions for Reliable Energy. Please provide your responses via email (if available) by January 19, 2008 to each of the following people:

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Please identify the person who prepared your responses to each data request. If you have any questions concerning the meaning of any data requests, please let us know.

CARRIZO ENERGY SOLAR FARM
CURE Data Requests Set Three (Nos. 96 - 107)

AIR QUALITY

Background: ON-SITE TEMPORARY MANUFACTURING BUILDING

The Applicant's July 1, 2008 Supplement to the AFC adds on-site manufacturing of the solar panels to the construction phase of the Project requiring a 40,000-square foot temporary manufacturing building including evaporative cooling and utility services. The on-site manufacturing process would involve a proprietary automated production cell that would weld reflector frames for the solar panels from components and affix mirrors with polyurethane adhesive to the reflector frames.[1]

The Applicant states that the manufacturing building would rest on a foundation comprised of 6-inch reinforced concrete flooring.[2] However, elsewhere the Applicant indicates that hydraulic or pneumatic pile drivers would be required for construction of the temporary manufacturing building.[3]

Construction and dismantling of the on-site manufacturing building are estimated to take approximately four months each.[4] The Applicant indicates that the manufacturing building and the robotic welding cell would be removed from the premises upon completion of reflector production sufficient to meet Project demand, specifically at the end of the 35-month construction schedule.[5] The Applicant further states that the site of the manufacturing facility would be returned to its as-found condition.[6]

Data Requests:

96. Please advise whether the Applicant intends to obtain a Conditional Use Permit for the temporary manufacturing building from the County of San Luis Obispo.

97. Please advise whether the Applicant intends to apply for an Authority to Construct and Permit to Operate for the temporary manufacturing building including evaporative cooling and utility services from the

[1] July 1, 2008 Supplement to AFC, pp. 1-3 through 1-5.
[2] July 1, 2008 Supplement to AFC, p. 1-3.
[3] July 1, 2008 Supplement to AFC, Appendix F "Noise Data", Tables F-2 through F-20.
[4] July 1, 2008 Supplement to AFC, p. 1-3 through 1-6.
[5] July 1, 2008 Supplement to AFC, pp. 1-4 through 1-5.
[6] July 1, 2008 Supplement to AFC, p. 1-6.

San Luis Obispo County Air Pollution Control District ("District"). If the Applicant does not intend to obtain permits from the District, please discuss why it deems these permits not necessary.

98. Please clarify whether dismantling of the temporary manufacturing building would add an additional four months to the 35-month construction schedule or whether the 35-months are inclusive of dismantling the structure.

99. Please clarify whether the foundation for the on-site manufacturing building would require piles as support or whether it would rest on a 6-inch reinforced spread footing. In case pile support would be required for the manufacturing building, please:

    a. Specify which type of piles would be required, *e.g.*, timber, precast concrete, steel, etc., and which types of pile-driver would be used, *i.e.*, hydraulic or vibratory.

    b. Specify the maximum rated energy in ft-lbs for the pile driver that would be used.

    c. Specify the emissions rates for the pile driver that would be used and quantify emissions from pile driving.

    d. Confirm that the piles for the temporary manufacturing building would be removed from the site after dismantling of the building.

    e. Indicate whether the Applicant would be willing to accept a Condition of Certification stipulating implementation of the responses to above data requests 99.a) through 99.d).

Background: EMISSIONS FROM ON-SITE MANUFACTURING OF SOLAR PANELS

After robots within the welding cell weld the various frame components together to form a completed reflector frame, mirror handling robots would use polyurethane adhesive to affix mirrors to the reflector frames. The Applicant states that that the specific adhesive was selected because it meets California VOC and HAP regulations for use in well ventilated buildings. The Applicant provides no further information on potential emissions from the welding process and use of adhesives and their control other than stating that the welding cell would be powered by the grid and that fumes from the welding cell would be extracted through a system of ducts and bag filters. The Applicant expects any associated particulate matter emissions to be negligible.[7] The Applicant does not discuss the

[7] July 1, 2008 Supplement to AFC, pp. 1-4 through 1-5.

control efficiency of the proposed control equipment or whether any VOC and HAP emission controls would be installed.

Review of the Applicant's permit for its solar panel manufacturing plant in Las Vegas, NV, shows that PM10 and VOC/HAP emissions from the robotics welding line and adhesive use can be substantial, if not controlled properly. The Las Vegas facility has a capacity of producing about 700 MW/year of solar panels and related equipment.[8] Control equipment for the robotics welding line include a bag filter with 90 percent control efficiency for PM10 and a carbon adsorption system with a VOC/HAP control efficiency of at least 99.0 percent.[9] The on-site manufacturing building at Carrizo Energy Solar Farm would have a capacity of about 79 MW/year or about 11 percent of the Las Vegas facility.[10,11] Based on emission factors contained in permit for the Las Vegas facility and proportionate to its lower annual output of solar panels, the Carrizo facility would have uncontrolled emissions of approximately 1.0 lb/day PM10 from zinc vaporization, 40.0 lb/day PM10 from weld rod usage, and 37.1 lb/day VOC/HAP from adhesive volatilization.[12] The information contained in the Applicant's July 1, 2008 Supplement to the AFC is insufficient to determine to what extent these emissions would be controlled and whether the reduction in the number of solar panel delivery trucks would be sufficient to offset the increase in emissions from construction of the temporary manufacturing building and the on-site production of solar panels, as claimed.

Data Requests:

100. Please specify the control efficiency for the bag filters that would be used for controlling particulate matter emissions from the welding cell and identify how compliance with the specified control efficiency would be determined.

101. Please quantify daily and annual uncontrolled and controlled particulate matter emissions from zinc vaporization and total PM10 and PM2.5 emissions from the welding cell.

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[8] http://www.examiner.com/p-89628~Ausra_Opens_First_U_S__Solar_Thermal_Power_Factory.html.
[9] Nevada Department of Air Quality and Environmental Management, Authority to Construct/Operating Permit for a Nonmajor Surface Coating and Welding Operation, Ausra Manufacturing NV, LLC, March 28, 2008.
[10] (177 MW) / [(35 months total Project construction period) – (4 months construction of manufacturing building) – (4 months demolition of manufacturing building)] × (12 months/year) = **78.7 MW/year.**
[11] (78.7 MW/year) / (700 MW/year) = **0.112**.
[12] (8.72 lb/day) × 0.112 = **1.0 lb/day PM10 zinc vaporization**;
(355.7 lb/day) × 0.112 = **40.0 lb/day PM10 weld rod usage**;
(330 lb/day) × 0.112 **= 37.1 lb/day VOC/HAP adhesive volatilization**.

102. Please indicate whether the on-site manufacturing building would control adhesive volatilization with a carbon adsorption system, and, if yes, please specify the VOC/HAP control efficiency and identify how compliance with the specified control efficiency would be determined.

103. Please identify the individual VOCs and HAPs and specify their content in the polyurethane adhesive used to affix mirrors to the reflector frames.

104. Please quantify daily and annual uncontrolled and controlled HAP and VOC emissions (individual and total) from the polyurethane adhesive used to affix mirrors to the reflector frames.

105. Please quantify the waste materials generated during manufacturing of the solar panels including baghouse filter wastes, discarded mirror glass, and empty adhesive drums.

106. Please quantify the waste materials generated from dismantling of the temporary manufacturing building.

107. Please quantify the number of truck trips associated with off-site disposal of waste materials from on-site manufacturing.

Dated: December 19, 2008

Respectfully submitted,

/s/

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STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of: The Application for Certification for the Carrizo Energy Solar Farm by Carrizo Energy, LLC	Docket No. 07-AFC-8

PROOF OF SERVICE

I, David Weber, declare that on December 19, 2008, transmission via electronic mail of the attached **CALIFORNIA UNIONS FOR RELIABLE ENERGY DATA REQUESTS, SET THREE** was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.6, and 1210. All electronic copies sent to all those identified on the Proof of Service listed below.

Via U.S. Mail to:
CALIFORNIA ENERGY COMMISSION
DOCKET UNIT
ATTN: Docket Unit 07-AFC-8
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Environmental Center of San Luis Obispo (ECOSLO)
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San Luis Obispo, CA 93406

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I declare under penalty of perjury that the foregoing is true and correct. Executed at Sacramento, California, on December 19, 2008.

/s/
David Weber

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December 19, 2008

VIA ELECTRONIC SERVICE

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Re: Carrizo Energy Solar Farm Project (07-AFC-8)
CURE Data Requests, Set Three (Nos. 96-107)

Dear Mr. Fontana:

California Unions for Reliable Energy (CURE) submits this third set of data requests to Ausra, Inc. for the Carrizo Energy Solar Farm Project pursuant to Title 20, section 1716(b), of the California Code of Regulations. CURE requests this information to assess air quality issues not addressed in the Preliminary Staff Assessment (PSA) and to follow-up on air quality issues raised at the December 15, 2008 PSA Workshop. The requested information is necessary to: (1) more fully understand the project; (2) assess whether the project will be constructed and operated in compliance with all laws, ordinances, regulations and standards; (3) assess whether the project will result in significant environmental impacts; (4) assess whether the project will be constructed and operated in a safe, efficient and reliable manner; and (5) assess potential mitigation measures.

Pursuant to Section 1716(f) of the Energy Commission's regulations, written responses to these requests are due within 30 days. If you are unable to provide or object to providing the requested information by the due date, you must send a written notice of your objection(s) and/or inability to respond, together with a statement of reasons, to Commissioners Pfannenstiel and Byron and to CURE within 20 days.

Please contact us if you have any questions. Thank you for your cooperation with these requests.

Sincerely,

/s/

Tanya A. Gulesserian

TAG:cnh
Enclosure

cc: Docket (07-AFC-8)
Proof of Service List (07-AFC-8)